

WHAT IS CLAIMED IS:

1. A multilayer printed circuit board (PCB),
comprising:

a first signal transmission line;

5 a second signal transmission line opposite to the
first transmission line;

a first ground layer opposite to the first
transmission line;

10 a second ground layer opposite to the first ground
layer;

a first insulator disposed between the first and
second transmission lines;

a second insulator disposed between the first and
second ground layers;

15 a signal via passing through the first insulator
and connected between the first and second transmission
lines, the signal via being separated from the first
and second ground layers; and

20 a ground via passing through the second insulator
and connected between the first and second ground
layers, the ground via being separated from the signal
via,

25 wherein the first ground layer has an end
protruding with respect to the second layer, the end
extending nearer to the signal via than an end of the
second ground layer opposite to the end.

2. The multilayer PCB according to claim 1,
wherein the end of the first ground layer includes
a portion which abuts an end face of the ground via and
a portion directly adjacent to the abutting portion,

5 wherein the end of the second ground layer abuts
an opposite end face of the ground via, and

wherein the adjacent portion of the first ground
layer extends from the ground via toward the signal via
along the first transmission line beyond the end of the
10 second ground layer.

3. The multilayer PCB according to claim 1,
wherein the first ground layer has a larger area
overlaid with the first transmission line than the
second ground layer.

15 4. The multilayer PCB according to claim 1,
further comprising another plurality of ground vias,

wherein the ground via and the other plurality of
ground vias are disposed at equal intervals on a line
forming a square around the signal via.

20 5. The multilayer PCB according to claim 1,
further comprising another plurality of ground vias,

wherein the ground via and the other plurality of
ground vias are disposed at equal intervals on a line
forming a circle around the signal via.

25 6. A light transceiver, comprising:
the multilayer PCB according to claim 1; and

a light-emitting module, a light-receiving module,
and an electronic element mounted on the multilayer PCB,

~~wherein the electronic element is electrically~~
connected to the light-emitting module or the light-
receiving module via the first and second transmission
lines of the PCB.

7. A transponder, comprising:

the multilayer PCB according to claim 1;

a light-emitting module, a light-receiving module,
a multiplexing IC, and a demultiplexing IC fixed to the
multilayer PCB,

wherein either the light-emitting module and the
multiplexing IC or the light-receiving module and the
demultiplexing IC are electrically connected by the
first and second transmission lines of the PCB.